

**What the invention claimed is:**

1. A LED lamp tube comprising:

a light-guide shade, said light-guide shade comprising a light guide layer, two mounting portions extended from two  
5 opposite sides of said light guide layer for mounting, and a plurality of protruding portions arranged inside said light guide layer, said protruding portions each defining a light guiding groove for producing a luminous arc when radiated with light; and

a light source, said light source comprising a circuit board  
10 mounted inside said light-guide shade, and a plurality of light emitting diodes mounted in said circuit board and adapted to emit light onto the light guiding grooves of said protruding portions to further produce luminous arcs.

2. The LED lamp tube as claimed in claim 1, wherein said  
15 light guide shade is molded from one of transparent and opaque plastic materials.

3. The LED lamp tube as claimed in claim 1, wherein said protruding portions are arranged to form one of serrated, arched, and corrugated structures.

20 4. The LED lamp tube as claimed in claim 1, wherein said protruding portions are spirally arranged inside said light guide layer.

5. The LED lamp tube as claimed in claim 1, wherein said

light-guide shade has at least one linear coupling groove.

6. The LED lamp tube as claimed in claim 1, wherein said circuit board comprises a control circuit.

7. The LED lamp tube as claimed in claim 1, wherein said  
5 light emitting diodes have different colors.

8. The LED lamp tube as claimed in claim 1, wherein said light-guide shade has an outside wall coated with a layer of photo mask selected from colored, colorless, and frosted semitransparent photo masks.

10 9. The LED lamp tube as claimed in claim 1, wherein said light-guide shade is mounted with a reflector.

10. The LED lamp tube as claimed in claim 9 further comprising a reflector fastened with said light-guide shade in a lamp box.

15 11. The LED lamp tube as claimed in claim 1, wherein said circuit board of said light source is connected to an external controller (DMX controller or personal computer) that controls the lighting pattern of said light emitting diodes.

12. The LED lamp tube as claimed in claim 1, wherein said  
20 circuit board of said light source has electric connector means for connection to external circuit means.